

# **EXHIBIT 4**

**EXHIBIT 4 to Wolverine Motion to Dismiss**  
**Section 101 Analysis of U.S. Patent No. 7,177,833**

<p>1. An automated trading system for use in an electronic exchange system network, comprising:</p> <p>a receiver interface that receives market price information for a first traded item from an exchange; a transaction value calculator that generates a transaction value for the first traded item based on price information for a second traded item related to the first traded item;</p> <p>decision logic using at least a portion of the received market price information and the transaction value to generate a decision whether to submit a response to buy or sell the first traded item; and</p> <p>an output interface for outputting a request for market transaction for one of the first traded item and the second traded item for transmission to the exchange in response to said decision logic.</p>	<p><u>Machine Test</u></p> <p>The claim's references to "an electronic exchange system network," a "receiver interface," a "calculator," and an "output interface" do not satisfy the machine test for the following reasons:</p> <ol style="list-style-type: none"><li>1. The claim is not limited to a <i>particular</i> or <i>specific</i> machine or structure.<ul style="list-style-type: none"><li>• These referenced devices are general in nature and scope, and available to the everyday trader or consumer. They are not unique to the patent or to the claimed steps.</li></ul></li><li>2. The recited devices are not sufficiently "tied" to the claimed process.<ul style="list-style-type: none"><li>• The referenced devices merely assist in the execution of the method steps, but are not mandatory for the steps' implementation, as the claim may be performed both manually and/or mentally.</li></ul></li><li>3. Use of the recited devices does not impose meaningful limits on the claim scope.<ul style="list-style-type: none"><li>• Due to the generic nature of the recited devices, the claim completely preempts the trading industry use of decision-making and order submission processes that pre-date the patent.</li></ul></li><li>4. The recited devices are used for "insignificant extra-solution activity."<ul style="list-style-type: none"><li>• The referenced devices only speed up execution of previously-existing trader processes.</li></ul></li></ol> <p><u>Transformation Test</u></p> <p>Like the <i>Bilski</i> claims, this claim does not transform a particular physical article into a different state or thing. Rather, the claim merely</p>
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	<p>manipulates data in order to execute trades of items that are not, themselves, physical objects or representative of a physical object. <i>See In re Bilski</i>, 545 F.3d 943, 963-66 (Fed. Cir. 2008); <i>see also Gottschalk v. Benson</i>, 409 U.S. 63, 70 (1972).</p> <p><u>Further Indicia That Claim Covers Only “Abstract Idea”</u></p> <p>Each of the substantive steps/actions in this claim is a manual or mental step that the patent specification acknowledges had been practiced for years in the trading industry (<i>see</i> ‘833 Pat. 1:53-62); the claim’s only addition is the abstract idea that these known steps should be automated to increase speed. Automation to increase speed, especially in the absence of any specifically defined hardware (i.e., “machine”) and/or any concretely defined and executable algorithms, is an abstract idea, the patenting of which the Supreme Court specifically warned against in <i>Bilski</i>. Allowing Edge to patent the idea of automating the well-known, conventional method(s) of buying and selling stocks and/or derivatives based on price discrepancies would “would effectively grant a monopoly over an abstract idea.” <i>Bilski v. Kappos</i>, 130 S. Ct. 3218, 3231 (2010).</p>
2. The automated trading system according to claim 1, wherein the transaction value calculator receives current price information for the second traded item and uses the current price information to generate the transaction value.	<p><i>See</i> analysis of claim 1, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional recitation of a “calculator” does not allow this claim to pass the machine test, as this recitation suffers from all the same issues as the device recitations of claim 1.</li> <li>• The additional process limitations of this claim do not alter the transformation test analysis.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
3. The automated trading system according to claim 2, wherein said transaction value calculator generates the transaction value using interpolation.	<p><i>See</i> analysis of claims 1 and 2, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional recitation of a “calculator” does not allow this claim to pass the machine test, as this recitation suffers from all the same issues as the device recitations of claim 1.</li> </ul>

	<ul style="list-style-type: none"> <li>• The additional process limitations of this claim do not alter the transformation test analysis.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
4. The automated trading system according to claim 2, wherein said transaction value calculator generates the transaction value by extrapolation.	<p><i>See analysis of claims 1 and 2, from which this claim depends.</i></p> <ul style="list-style-type: none"> <li>• The additional recitation of a “calculator” does not allow this claim to pass the machine test, as this recitation suffers from all the same issues as the device recitations of claim 1.</li> <li>• The additional limitations of this claim do not alter the transformation test analysis.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
5. The automated trading system according to claim 2, wherein the transaction value calculator generates the transaction value by using some precalculated terms.	<p><i>See analysis of claims 1 and 2, from which this claim depends.</i></p> <ul style="list-style-type: none"> <li>• The additional recitation of a “calculator” does not allow this claim to pass the machine test, as this recitation suffers from all the same issues as the device recitations of claim 1.</li> <li>• The additional limitations of this claim do not alter the transformation test analysis.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
6. The automated trading system according to claim 2, wherein the second traded item is a security and the first traded item is an option on the security.	<p><i>See analysis of claims 1 and 2, from which this claim depends.</i></p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>

7. The automated trading system according to claim 1, wherein the request for market transaction is an order for the first traded item.	<p><i>See analysis of claim 1, from which this claim depends.</i></p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
8. The automated trading system according to claim 1, wherein the request for market transaction is a quote for the first traded item.	<p><i>See analysis of claim 1, from which this claim depends.</i></p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
9. The automated trading system according to claim 1, said decision logic compares at least a portion of the received market price information to the transaction value when automated trading in the first item first becomes enabled.	<p><i>See analysis of claim 1, from which this claim depends.</i></p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
10. The automated trading system according to claim 1, further comprising safety check logic, responsive to said decision logic, to prevent transmission of a request for market transaction for the first traded item to the exchange if the request does not meet a predetermined criterion.	<p><i>See analysis of claim 1, from which this claim depends.</i></p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
11. The automated trading system according to claim 10, wherein the predetermined criterion is a maximum trade quantity for the first traded item.	<p><i>See analysis of claims 1 and 10, from which this claim depends.</i></p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to</li> </ul>

	increase speed of previously manual and/or mental processes.
12. The automated trading system according to claim 10, wherein the predetermined criterion is a maximum resulting delta position in the second traded item.	<p><i>See</i> analysis of claims 1 and 10, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
13. The automated trading system according to claim 10, wherein said predetermined criterion is a maximum number of market transaction attempts within a predetermined period of time and said decision logic compares at least a portion of the received market price information to the transaction value when the maximum number of attempts is increased.	<p><i>See</i> analysis of claims 1 and 10, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
14. The automated trading system according to claim 1, where the receiver interface receives the market price information for the first traded item indirectly from the exchange via an exchange interface.	<p><i>See</i> analysis of claim 1, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional recitations of “receiver interface” and “exchange interface” do not allow this claim to pass the machine test, as these recitations suffer from all the same issues as the device recitations of claim 1.</li> <li>• The additional process limitations of this claim do not alter the transformation test analysis.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
15. The automated trading system according to claim 1, wherein the decision logic compares the transaction value to at least a portion of the received market price information.	<p><i>See</i> analysis of claim 1, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this</li> </ul>

	claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.
16. The automated trading system according to claim 15, wherein the transaction value is a minimum sell price for the first traded item, and the market price information includes a market bid price for the first traded item.	<p><i>See</i> analysis of claims 1 and 15, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
17. The automated trading system according to claim 15, wherein the transaction value is a maximum buy price for the first traded item, and the market price information includes a market ask price for the first traded item.	<p><i>See</i> analysis of claims 1 and 15, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
18. The automated trading system according to claim 15, wherein the transaction value is a theoretical value of the first traded item based on a mathematical model.	<p><i>See</i> analysis of claims 1 and 15, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
19. The automated trading system according to claim 15, wherein the price information for the second traded item corresponds to a current market price for the second traded item and said decision logic generates a comparison when the current market price for the second traded item changes.	<p><i>See</i> analysis of claims 1 and 15, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
20. The automated trading system according to claim 15, wherein said price information for the second	<p><i>See</i> analysis of claims 1 and 15, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or</li> </ul>

traded item corresponds to a current market price for the second traded item and said decision logic generates a comparison when the price information for the first traded item changes.	<p>transformation analyses.</p> <ul style="list-style-type: none"> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
21. The automated trading system according to claim 1, wherein a backend computer includes said receiver interface, said transaction value calculator, said decision logic, and said output interface and further comprising a trader station separate from said backend computer, said trader station coupled to said backend computer through a communication link, said trader station including a graphic user interface to enable a trader to monitor the operation of said backend computer.	<p><i>See</i> analysis of claim 1, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional recitations of a “backend computer,” a “receiver interface,” a “calculator,” a “output interface,” a “trader station,” and a “graphic user interface,” do not allow this claim to pass the machine test, as these recitations suffer from all the same issues as the device recitations of claim 1.</li> <li>• The additional process limitations of this claim do not alter the transformation test analysis.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
22. The automated trading system according to claim 21, wherein said backend computer is located substantially closer than said trader station to the exchange that transmits the market price information for the first traded item.	<p><i>See</i> analysis of claims 1 and 21, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional recitations of a “backend computer,” and a “trader station,” do not allow this claim to pass the machine test, as these recitations suffer from all the same issues as the device recitations of claim 1.</li> <li>• The additional process limitations of this claim do not alter the transformation test analysis.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
23. The automated trading system according to claim 1, wherein:  said output interface outputs a request for market	<p><i>See</i> analysis of claim 1, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional recitations of a “receiver interface” and an “output interface” do not allow this claim to pass the machine test, as these recitations suffer from all the same issues as the device recitations</li> </ul>



<p>transaction for the first traded item; and</p> <p>said receiver interface further receives trade confirmation information for the first traded item in response to the request for market transaction for the first traded item, and said automated trading system further comprises:</p> <p>hedge logic for generating a request for market transaction for the second traded item in response to the trade confirmation information, wherein said request for market transaction for the second traded item hedges at least some of the risk of the market transaction for the first traded item.</p>	<p>of claim 1.</p> <ul style="list-style-type: none"> <li>• The additional process limitations of this claim do not alter the transformation test analysis.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
<p>24. An automated trading method for use in an electronic exchange system network, comprising: receiving market price information for a first traded item;</p> <p>automatically calculating a transaction price for the first traded item based on price information for a second traded item related to the first traded item;</p> <p>comparing the received market price information for the first traded item to the transaction price for the first traded item; and</p> <p>automatically generating a request for market transaction for one of the first traded item and the second traded item based on the comparison</p>	<p><u>Machine Test</u></p> <p>The claim's reference to "an electronic exchange system network" does not satisfy the machine test for the following reasons:</p> <ol style="list-style-type: none"> <li>1. The claim is not limited to a <i>particular</i> or <i>specific</i> machine or structure. <ul style="list-style-type: none"> <li>• This referenced device is general in nature and scope, and available to the everyday trader or consumer. It is not unique to the patent or to the claimed steps.</li> </ul> </li> <li>2. The recited device is not sufficiently "tied" to the claimed process. <ul style="list-style-type: none"> <li>• The referenced device merely assists in the execution of the method steps, but is not mandatory for the steps' implementation, as the claim may be performed both manually and/or mentally.</li> </ul> </li> <li>3. Use of the recited device does not impose meaningful limits on the claim scope.</li> </ol>

<p>of the received market price information to the transaction price.</p>	<ul style="list-style-type: none"> <li>• Due to the generic nature of the recited device, the claim completely preempts the trading industry use of decision-making and order submission processes that pre-date the patent.</li> </ul> <p>4. The recited device is used for “insignificant extra-solution activity.”</p> <ul style="list-style-type: none"> <li>• The referenced device only speeds up execution of previously-existing trader processes.</li> </ul> <p><u>Transformation Test</u> Like the <i>Bilski</i> claims, this claim does not transform a particular physical article into a different state or thing. Rather, the claim merely manipulates data in order to execute trades of items that are not, themselves, physical objects or representative of a physical object. <i>See In re Bilski</i>, 545 F.3d 943, 963-66 (Fed. Cir. 2008); <i>see also Gottschalk v. Benson</i>, 409 U.S. 63, 70 (1972).</p> <p><u>Further Indicia That Claim Covers Only “Abstract Idea”</u> Each of the substantive steps/actions in this claim is a manual or mental step that the patent specification acknowledges had been practiced for years in the trading industry (<i>see</i> ‘833 Pat. 1:53-62); the claim’s only addition is the abstract idea that these known steps should be automated to increase speed. Automation to increase speed, especially in the absence of any specifically defined hardware (i.e., “machine”) and/or any concretely defined and executable algorithms, is an abstract idea, the patenting of which the Supreme Court specifically warned against in <i>Bilski</i>. Allowing Edge to patent the idea of automating the well-known, conventional method(s) of buying and selling stocks and/or derivatives based on price discrepancies would “would effectively grant a monopoly over an abstract idea.” <i>Bilski v. Kappos</i>, 130 S. Ct. 3218, 3231 (2010).</p>
<p>25. The automated trading method according to claim 24, wherein said first traded item corresponds to</p>	<p><i>See</i> analysis of claim 24, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or</li> </ul>

an option and the second traded item corresponds to a security underlying the option.	<p>transformation analyses.</p> <ul style="list-style-type: none"> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
<p>26. The automated trading method according to claim 24, wherein said step of calculating a transaction price, comprises:</p> <p>(a) receiving current market price information for said second traded item;</p> <p>(b) generating said transaction price for said first traded item using said current market price information for said second traded item.</p>	<p><i>See</i> analysis of claim 24, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
27. The automated trading method according to claim 26, wherein said step of calculation uses interpolating the transaction price.	<p><i>See</i> analysis of claims 24 and 26, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
28. The automated trading method according to claim 26, wherein said step of generating said transaction price comprises extrapolating the transaction price.	<p><i>See</i> analysis of claims 24 and 26, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
29. An automated method of trading in an electronic exchange system network, comprising:	<p><u>Machine Test</u></p> <p>The claim's reference to "an electronic exchange system network" does not satisfy the machine test for the following reasons:</p>

receiving a current market price for an option from an electronic exchange;

automatically comparing the current market price for the option with a transaction price for the option, where the transaction price for the option is calculated at least in part from current price information for an underlying security for the option; and

based on the result of the comparing step, automatically submitting an order or quote for the option to the electronic exchange within 96 microseconds of the step of receiving the current market price for the option.

1. The claim is not limited to a *particular* or *specific* machine or structure.

- This referenced device is general in nature and scope, and available to the everyday trader or consumer. It is not unique to the patent or to the claimed steps.

2. The recited device is not sufficiently “tied” to the claimed process.

- The referenced device merely assists in the execution of the method steps, but is not mandatory for the steps’ implementation, as the claim may be performed both manually and/or mentally.

3. Use of the recited device does not impose meaningful limits on the claim scope.

- Due to the generic nature of the recited device, the claim completely preempts the trading industry use of decision-making and order submission processes that pre-date the patent.

4. The recited device is used for “insignificant extra-solution activity.”

- The referenced device only speeds up execution of previously-existing trader processes.

#### Transformation Test

Like the *Bilski* claims, this claim does not transform a particular physical article into a different state or thing. Rather, the claim merely manipulates data in order to execute trades of items that are not, themselves, physical objects or representative of a physical object. *See In re Bilski*, 545 F.3d 943, 963-66 (Fed. Cir. 2008); *see also Gottschalk v. Benson*, 409 U.S. 63, 70 (1972).

#### Further Indicia That Claim Covers Only “Abstract Idea”

Each of the substantive steps/actions in this claim is a manual or mental

	<p>step that the patent specification acknowledges had been practiced for years in the trading industry (<i>see</i> ‘833 Pat. 1:53-62); the claim’s only addition is the abstract idea that these known steps should be automated to increase speed. Automation to increase speed, especially in the absence of any specifically defined hardware (i.e., “machine”) and/or any concretely defined and executable algorithms, is an abstract idea, the patenting of which the Supreme Court specifically warned against in <i>Bilski</i>. Allowing Edge to patent the idea of automating the well-known, conventional method(s) of buying and selling stocks and/or derivatives based on price discrepancies would “would effectively grant a monopoly over an abstract idea.” <i>Bilski v. Kappos</i>, 130 S. Ct. 3218, 3231 (2010).</p>
<p>30. An automated method of trading in an electronic exchange system network, comprising the steps of:</p> <p>receiving a current market price for a security from a market source;</p> <p>automatically calculating a transaction price for an option of the security using the current market price for the security;</p> <p>comparing the current market price for the option with a transaction price for the option; and</p> <p>based on the step of comparing, automatically submitting an order or quote for the option to an electronic exchange within 154 microseconds of the step of receiving the current market price for the security.</p>	<p><u>Machine Test</u></p> <p>The claim’s reference to “an electronic exchange system network” does not satisfy the machine test for the following reasons:</p> <ol style="list-style-type: none"> <li>1. The claim is not limited to a <i>particular</i> or <i>specific</i> machine or structure. <ul style="list-style-type: none"> <li>• This referenced device is general in nature and scope, and available to the everyday trader or consumer. It is not unique to the patent or to the claimed steps.</li> </ul> </li> <li>2. The recited device is not sufficiently “tied” to the claimed process. <ul style="list-style-type: none"> <li>• The referenced device merely assists in the execution of the method steps, but is not mandatory for the steps’ implementation, as the claim may be performed both manually and/or mentally.</li> </ul> </li> <li>3. Use of the recited device does not impose meaningful limits on the claim scope. <ul style="list-style-type: none"> <li>• Due to the generic nature of the recited device, the claim completely preempts the trading industry use of decision-making and order submission processes that pre-date the patent.</li> </ul> </li> </ol>

	<p>4. The recited device is used for “insignificant extra-solution activity.”</p> <ul style="list-style-type: none"> <li>• The referenced device only speeds up execution of previously-existing trader processes.</li> </ul> <p><u>Transformation Test</u></p> <p>Like the <i>Bilski</i> claims, this claim does not transform a particular physical article into a different state or thing. Rather, the claim merely manipulates data in order to execute trades of items that are not, themselves, physical objects or representative of a physical object. <i>See In re Bilski</i>, 545 F.3d 943, 963-66 (Fed. Cir. 2008); <i>see also Gottschalk v. Benson</i>, 409 U.S. 63, 70 (1972).</p> <p><u>Further Indicia That Claim Covers Only “Abstract Idea”</u></p> <p>Each of the substantive steps/actions in this claim is a manual or mental step that the patent specification acknowledges had been practiced for years in the trading industry (<i>see</i> ‘833 Pat. 1:53-62); the claim’s only addition is the abstract idea that these known steps should be automated to increase speed. Automation to increase speed, especially in the absence of any specifically defined hardware (i.e., “machine”) and/or any concretely defined and executable algorithms, is an abstract idea, the patenting of which the Supreme Court specifically warned against in <i>Bilski</i>. Allowing Edge to patent the idea of automating the well-known, conventional method(s) of buying and selling stocks and/or derivatives based on price discrepancies would “would effectively grant a monopoly over an abstract idea.” <i>Bilski v. Kappos</i>, 130 S. Ct. 3218, 3231 (2010).</p>
<p>31. The automated trading method according to claim 30, wherein said step of submitting an order or quote is performed within 97 microseconds of the step of receiving the current market price for the security.</p>	<p><i>See</i> analysis of claim 30, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>

<p>32. The automated trading method according to claim 31, further comprising the step of performing safety checks before the submitting step.</p>	<p>See analysis of claims 30 and 31, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
<p>33. The automated trading method according to claim 32, wherein said step of calculating is performed within 80 microseconds.</p>	<p>See analysis of claims 30 and 32, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
<p>34. An automated trading method for use in an electronic exchange system network, comprising the steps of:</p> <p>receiving market price information for a first traded item;</p> <p>automatically calculating a transaction value for the first traded item based on at least one of (a) price information for a second traded item related to the first traded item and (b) received market information for the first traded item; and</p> <p>using at least the calculated transaction value in automatically determining whether to submit an order for the first traded item.</p>	<p><u>Machine Test</u></p> <p>The claim's reference to "an electronic exchange system network" does not satisfy the machine test for the following reasons:</p> <ol style="list-style-type: none"> <li>1. The claim is not limited to a <i>particular</i> or <i>specific</i> machine or structure. <ul style="list-style-type: none"> <li>• This referenced device is general in nature and scope, and available to the everyday trader or consumer. It is not unique to the patent or to the claimed steps.</li> </ul> </li> <li>2. The recited device is not sufficiently "tied" to the claimed process. <ul style="list-style-type: none"> <li>• The referenced device merely assists in the execution of the method steps, but is not mandatory for the steps' implementation, as the claim may be performed both manually and/or mentally.</li> </ul> </li> <li>3. Use of the recited device does not impose meaningful limits on the claim scope.</li> </ol>

	<ul style="list-style-type: none"> <li>• Due to the generic nature of the recited device, the claim completely preempts the trading industry use of decision-making and order submission processes that pre-date the patent.</li> </ul> <p>4. The recited device is used for “insignificant extra-solution activity.”</p> <ul style="list-style-type: none"> <li>• The referenced device only speeds up execution of previously-existing trader processes.</li> </ul> <p><u>Transformation Test</u> Like the <i>Bilski</i> claims, this claim does not transform a particular physical article into a different state or thing. Rather, the claim merely manipulates data in order to execute trades of items that are not, themselves, physical objects or representative of a physical object. <i>See In re Bilski</i>, 545 F.3d 943, 963-66 (Fed. Cir. 2008); <i>see also Gottschalk v. Benson</i>, 409 U.S. 63, 70 (1972).</p> <p><u>Further Indicia That Claim Covers Only “Abstract Idea”</u> Each of the substantive steps/actions in this claim is a manual or mental step that the patent specification acknowledges had been practiced for years in the trading industry (<i>see</i> ‘833 Pat. 1:53-62); the claim’s only addition is the abstract idea that these known steps should be automated to increase speed. Automation to increase speed, especially in the absence of any specifically defined hardware (i.e., “machine”) and/or any concretely defined and executable algorithms, is an abstract idea, the patenting of which the Supreme Court specifically warned against in <i>Bilski</i>. Allowing Edge to patent the idea of automating the well-known, conventional method(s) of buying and selling stocks and/or derivatives based on price discrepancies would “would effectively grant a monopoly over an abstract idea.” <i>Bilski v. Kappos</i>, 130 S. Ct. 3218, 3231 (2010).</p>
35. The automated trading method according to claim 34, wherein the calculated transaction value is an	<p><i>See</i> analysis of claim 34, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or</li> </ul>



implied volatility value corresponding to the first traded item.	<p>transformation analyses.</p> <ul style="list-style-type: none"> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
36. The automated trading method according to claim 34, wherein the calculated transaction value is a maximum buy value for the first traded item.	<p><i>See</i> analysis of claim 34, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
37. The automated trading method according to claim 34, wherein the calculated transaction value is a minimum sell value for the first traded item.	<p><i>See</i> analysis of claim 34, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
38. The automated trading method according to claim 34, wherein the calculated transaction value is a theoretical value for the first traded item generated based on a mathematical model.	<p><i>See</i> analysis of claim 34, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>
<p>39. The automated trading method according to claim 34, further comprising the steps of:</p> <p>(a) submitting an order for the first traded item;</p> <p>(b) receiving confirmation of a transaction from</p>	<p><i>See</i> analysis of claim 34, from which this claim depends.</p> <ul style="list-style-type: none"> <li>• The additional limitations of this claim do not alter the machine or transformation analyses.</li> <li>• The additional limitations do not alter the conclusion that this claim attempts to cover the abstract idea of using automation to increase speed of previously manual and/or mental processes.</li> </ul>

<p>an exchange responsive to the order submitted; and</p> <p>(c) submitting an order for the second traded item to hedge a delta risk associated with the confirmed transaction.</p>	
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